UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/691,296	10/22/2003	Paul Reuben Day	ROC920030215US1	2241

30206 7590 03/07/2007 IBM CORPORATION ROCHESTER IP LAW DEPT. 917 3605 HIGHWAY 52 NORTH ROCHESTER, MN 55901-7829	**EXAMINER** PHAM, KHANH B

ART UNIT	PAPER NUMBER
2166	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/07/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

PTOL-90A (Rev. 10/06)

	Application No.	Applicant(s)
Office Action Summary	10/691,296	DAY ET AL.
	Examiner	Art Unit	
	Khanh B. Pham	2166	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>06 December 2006</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-29</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-29</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____.

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2.   **Claims 1-29** are rejected under 35 U.S.C. 102(b) as being anticipated by Rubin

et al. (US 5,812,996 A), hereinafter "Rubin".

As per claim 1, Rubin teaches a method of performing a database query, the

method comprising:

- "generating an access plan for the database query, the access plan using at least

  one resource capable of being retrieved into working memory" at Col. 2 lines 20-

  35, Col. 11 lines 55-65;

- "wherein the resource is selected from the group consisting of a database file, a

  database table, an index, a temporary result set, a temporary file, and a hash

  table" at Col. 2 lines 35-40;

- "estimating a percentage of the resource that is currently resident in working

  memory" at Col. 10 lines 45-55, Col. 12 lines 1-30;

- "estimating a cost for the access plan using the estimated percentage; and selectively executing the access plan based upon the estimated cost" at Col. 10 lines 54-62 and Col. 7 lines 10-20.

As per claim 2, Rubin teaches the method of claim 1, further comprising "generating a second access plan for the database query and estimating a cost for the second access plan, wherein selectively executing the first access plan includes comparing the estimated costs for the first and second access plan and executing the first access plan if the estimated cost therefor is less than that of the second access plan" at Col. 7 lines 10-20.

As per claim 3, Rubin teaches a method of optimizing a database query, the method comprising:

- "determining a retrieval status for a resource used by the database query" at Col. 2 lines 30-40, Col. 12 lines 1-30; and

- "generating an access plan for the database query using the determined retrieval status for the resource" at Col. 2 lines 41-50 and Col. 11 line 55 to Col. 12 line 30.

As per claim 4, Rubin teaches the method of claim 3, wherein "the resource is selected from the group consisting of a database file, a database table, an index, a

temporary result set, a temporary file, a hash table, and combinations thereof" at Col. 12 lines 1-30.

As per claim 5, Rubin teaches the method of claim 3, wherein "determining the retrieval status includes determining whether at least a portion of the resource is resident in working memory" at Col. 12 lines 1-15.

As per claim 6, Rubin teaches the method of claim 3, wherein "determining the retrieval status includes determining whether at least a portion of the resource is resident in a cache memory" at Col. 12 lines 1-15.

As per claim 7, Rubin teaches the method of claim 3, wherein "determining the retrieval status includes determining whether at least a portion of the resource is resident in a local or a remote memory" at Col. 7 lines 35-65.

As per claim 8, Rubin teaches the method of claim 3, wherein "determining the retrieval status includes determining a percentage of the resource that is resident in working memory" at Col. 12 lines 1-15.

As per claim 9, Rubin teaches the method of claim 3, wherein "determining the

retrieval status includes accessing a resource manager to obtain the retrieval status of

the resource" at Col. 11 lines 55-65.

As per claim 10, Rubin teaches the method of claim 9, further comprising

"tracking, with the resource manager, a percentage of the resource that is in working

memory" at Col. 12 lines 1-30.

As per claim 11, Rubin teaches the method of claim 10, further comprising

"storing the percentage of the resource that is in working memory in a header for a

persistent copy of the resource" at Col. 12 lines 1-30.

As per claim 12, Rubin teaches the method of claim 3, wherein "generating the

access plan includes: generating a plurality of alternate access plans; calculating a cost

for each alternate access plan using the determined retrieval status for the resource;

and selecting one of the alternate access plans based upon the calculated costs for

each alternate access plan" at Col. 7 lines 10-30.

As per claim 13, Rubin teaches the method of claim 12, wherein "the retrieval

status for the resource indicates a percentage of the resource that is resident in working

memory, and wherein calculating the cost for each alternate access plan includes:

calculating the cost as a function of input/output cost and processing cost; and

calculating the input/output cost by scaling an estimated input/output cost by a scalar

value associated with the percentage of the resource that is resident in working

memory" at Col. 12 lines 1-30 and Col. 13 lines 1-65.

As per claim 14, Rubin teaches the method of claim 12, further comprising:

"storing the access plan, including associating with the stored access plan a retrieval

status assumption for the stored access plan, the retrieval status assumption

representing the determined retrieval status used to generate the access plan; and in

response to a request to execute the stored access plan: determining a current retrieval

status for the resource; comparing the current retrieval status with the retrieval status

assumption; and selectively generating another access plan for the database query

using the current retrieval status based upon the comparison of the current retrieval

status with the retrieval status assumption" at Col. 10 lines 10-65 and Col. 12 lines 1-30.

As per claim 15, Rubin teaches the method of claim 3, wherein "determining the

retrieval status includes determining whether a beginning portion of the resource is

resident in working memory, the method further comprising calculating a cost for the

access plan based upon the determined retrieval status, including weighting the cost

based upon the beginning portion of the resource being resident in working memory" at

Col. 12 lines 1-15 and Col. 14 lines 20-65.

Claims 16-29 recite an apparatus and a program product for performing similar

method as discussed in the rejection of claims 1-15 and are therefore rejected by the

same reasons.

Response to Arguments

3.   Applicant's arguments with respect to claims 1-29 have been considered but are

moot in view of the new ground(s) of rejection.

Conclusion

4.   The prior art made of record, listed on form PTO-892, and not relied upon, if any,

is considered pertinent to applicant's disclosure.

If a reference indicated as being mailed on PTO-FORM 892 has not been

enclosed in this action, please contact Lisa Craney whose telephone number is **(571)**

272-3574 for faster service.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Khanh B. Pham whose telephone number is (571) 272-

4116. The examiner can normally be reached on Monday through Friday 7:30am to 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hosain Alam can be reached on (571) 272-3978. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Khanh B. Pham
Primary Examiner
Art Unit 2166

March 5, 2007